REMARKS

Claims 1-5, 7-37, and 39-51 are pending in the application. Claims 2-5, 7-9, 15-37, and 39-49 are withdrawn from consideration as being drawn to non-elected inventions. Claims 1, 10-14, 50, and 51 are under active consideration.

35 U.S.C. § 102

Claims 1, 10-12, 50, and 51 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by the reference of Lowy et al. (U.S. Patent No. 5,855,891). In particular, the Office Action alleges:

> Lowy et al. taught fusion of chimeric protein comprising capsid proteins of two different viruses, namely human papillomavirus HPV-16, and bovine papillomavirus BPV-1 L1 capsid proteins (see the claims). The product as taught by Lowy et al inherently forms VLPs as it is well known in the art that papillomavirus L1 capsid protein on its own forms VLPs. Applicants are reminded that the Patent Office does not have facilities to perform physical comparisons between the claimed product and similar prior art products. Also, claiming of a new use, i.e., induction of immune response, which is inherently present in the prior art, does not necessarily make the claim patentable. (Office Action, page 4.)

Applicants respectfully traverse the rejection under 35 U.S.C. § 102(e) on the following grounds.

For a reference to anticipate claimed subject matter under 35 U.S.C. § 102, "the reference must teach every aspect of the claimed invention either explicitly or implicitly." M.P.E.P. § 706.02. Applicants respectfully submit that the reference of Lowy et al. does not teach or suggest all aspects of the Applicants' invention, either explicitly or implicitly.

The reference of Lowy fails to disclose virus-like particles comprising L1 capsid proteins from more than one type of virus, as claimed. Applicants respectfully disagree that the claims of U.S. Patent No. 5,855,891 recite such a virus-like particle. Rather, Lowy discloses a papilloma virus-like particle comprising either a bovine or a human L1 fusion product, but not both. For example, claim 2 of U.S. Patent No. 5,855,891 recites (emphasis added):

> The papillomavirus-like particle of claim 1 wherein said papillomavirus L1 fusion product is a human papillomavirus L1 fusion product **or** a bovine papillomavirus L1 fusion product.

Lowy fails to describe any L1 fusion comprising L1 capsid proteins from more than one species of papilloma virus or co-assembly of L1 capsid proteins from different species into virus-like particles. Thus, Lowy does not teach the incorporation of L1 capsid proteins from different species into the same virus-like particle, as described in the instant application. Therefore, claim 1 and all claims dependent therefrom are not anticipated by Lowy.

For at least these reasons, withdrawal of the rejection under 35 U.S.C. § 102(e) is respectfully requested.

35 U.S.C. § 103

Claims 1, 10-14, 50, and 51 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the reference of Lowy et al. (*supra*) in view of the reference of Ott et al. (1995) Vaccine Design, pp. 277-296. In particular, the Office Action alleges:

> [O]ne of ordinary skill in the art at the time of filing would have been highly motivated to mix the product taught by Lowy et al with adjuvant taught by Ott et al to obtain enhanced immune response. Utilizing adjuvant to enhance immune response is notoriously routine in this art. One of ordinary skill in the art being familiar with the above state of the [art] would not have anticipated any unexpected results. (Office Action, page 4.)

Applicants respectfully traverse the rejection under 35 U.S.C. § 103 on the following grounds.

To support an obviousness rejection under 35 U.S.C. § 103, "all the claim limitations must be taught or suggested by the prior art." M.P.E.P. § 2143.03. In addition, "the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure." M.P.E.P. § 706.02.

As mentioned above, the reference of Lowy fails to disclose or suggest a virus-like particle comprising L1 capsid proteins from more than one type of virus, as claimed. Nor does Lowy disclose or suggest using an adjuvant, as acknowledged by the Examiner.

The secondary reference of Ott et al. also fails to teach or suggest the claimed hybrid VLPs. Ott relates to MF59 and does not pertain in any way to HPV hybrid VLPs comprising L1 capsid proteins from more than one type of virus. Therefore, no combination of the cited references discloses or suggests all the limitations of the claims.

For at least the above reasons, withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

CONCLUSION

In light of the above remarks, Applicants submit that the present application is fully in condition for allowance. Early notice to that effect is earnestly solicited.

If the Examiner contemplates other action, or if a telephone conference would expedite allowance of the claims, Applicants invite the Examiner to contact the undersigned.

The Commissioner is hereby authorized to charge any fees and credit any overpayment of fees which may be required under 37 C.F.R. §1.16, §1.17, or §1.21, to Deposit Account No. 18-1648.

Please direct all further written communications regarding this application to:

Rebecca M. Hale
CHIRON CORPORATION
Intellectual Property - R440
P. O. Box 8097
Emeryville, CA 94662-8097

Respectfully submitted,

Date: February 2, 2006

By: Jenny Buchbinder

Jenny Buchbinder, Ph.D.
Registration No. 48,588
(650) 354-3383

CHIRON CORPORATION
Intellectual Property - R440
P. O. Box 8097
Emeryville, CA 94662-8097